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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/552,152	10/07/2005	Takayasu Taniguchi	053170	9203

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EXAMINER	
HAND, MELANIE JO	

ART UNIT	PAPER NUMBER
3761	

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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/552,152	TANIGUCHI ET AL.	
	Examiner	Art Unit	
	MELANIE J. HAND	3761	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *3* MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *04 February 2008*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-9* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-9* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date *3/26/08*.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Response to Arguments

1. Applicant's arguments filed February 4, 2008 have been fully considered but they are not persuasive. With respect to arguments regarding the rejection of claims 1-8 as unpatentable over Hosokawa in view of Quincy: Applicant argues in item (i) that there is no motivation to incorporate the silica gel taught by Quincy into the composition taught by Hosokawa. This is not persuasive because examiner stated in the rejection of claim 1 on page 3 of the previous Office action that Quincy teaches a water absorbent resin as well and Quincy equates a porous silica gel and the resin as equivalent materials that are both suitable to create the instant absorbent resin compound. This equivalency established by Quincy provides the motivation to modify the compound of Hosokawa; Hosokawa teaches a resin, and Quincy teaches a resin or a silica gel and accomplishes the same effect as Hosokawa: creating a water absorbent resin compound with odor control property via antibacterial metal. Applicant further argues in item (ii) that it is unpredictable whether Quincy's silica gel would function an as antibacterial agent in Hosokawa's composition. Examiner does not see any reason why the silica gel would not function as an antibacterial agent, as the silicon would not interfere with the titanium or zirconium antimicrobial metals, as sodium silicate, the metal in silica gel, is inert with respect to titanium and zirconium. Thus, all three would still function as antibacterial metals in the compound of the combined teaching of Hosokawa and Quincy. Applicant argues that it is unpredictable how to obtain a silica gel incorporating a titanium or zirconium even if combining the references. This is not persuasive because chelating groups such as those taught by Hosokawa, can be bound to silica gel in the presence of other materials on the surface of the gel, and those chelating groups are in turn capable of bonding to the zirconium and titanium in

the manner taught by Hosokawa. Thus, examiner disagrees that it is unpredictable how to obtain a silica gel incorporating a zirconium or titanium. As to applicant's arguments in item (iii), in response to applicant's argument that Hosokawa discloses a metal compound, but that metal compound is added to improve gel strength, stability and stickiness after water absorption and not to function as an antimicrobial agent, the fact that applicant has recognized another advantage which would flow naturally from following the suggestion of the prior art cannot be the basis for patentability when the differences would otherwise be obvious. See *Ex parte Obiaya*, 227 USPQ 58, 60 (Bd. Pat. App. & Inter. 1985).

Information Disclosure Statement

2. The information disclosure statement (IDS) submitted on March 26, 2008 was filed after the mailing date of the non-final action on October 26, 2007. The submission is in compliance with the provisions of 37 CFR 1.97. Accordingly, the information disclosure statement is being considered by the examiner.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

3. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any

evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

4. Claims 1-9 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hosokawa et al (U.S. Patent No. 6,703,451) in view of Quincy et al (WO 00/50098 A1).

With respect to **claim 1:** Hosokawa teaches a water-absorbing resin compound, which comprises a water-absorbing resin, an antibacterial agent incorporating an antibacterial metal in the form of titanium or zirconium, and a metal chelating agent, wherein the water-absorbing resin is a cross-linked polymer of an acrylic acid salt. ('451, Col. 2, lines 50-60, Col. 3, lines 1-5)

Hosokawa does not teach that the antimicrobial agent has a porous material incorporating said antibacterial metal. Quincy teaches a compound having a water absorbent resin, an antibacterial agent inasmuch as Quincy teaches that the odor control agent neutralizes odor-causing elements, which include bacteria and a metal chelating agent. Quincy teaches that the compound contains a superabsorbent material which can either be said resin or a silica gel, which is a porous material incorporating an antibacterial metal, i.e. silicon dioxide. Quincy teaches that the compound controls odor on a substrate, as does the compound of Hosokawa, therefore it would be obvious to one of ordinary skill in the art to modify the compound of Hosokawa such that the compound includes silica gel, which will necessarily function as an antibacterial agent as taught by Quincy. The combined teaching of Hosokawa and Quincy thus teaches an antimicrobial agent having a porous material (silica gel) that is capable of incorporating the antimicrobial metal taught by Hosokawa. It would further be obvious to modify the article of Hosokawa and Quincy to incorporate the metal in the silica gel with a reasonable

expectation of success as the gel is capable of incorporating the metal and the silica gel would also ensure that the metal remains in place to perform its intended function as an odor-control agent. ('098, Page 10, line 29- Page 11, line 9, Page 18, lines 28-30)

With respect to **claim 2:** The content of the antibacterial agent is 0.001-1 parts by weight with respect to 100 parts by weight of the water-absorbing resin. ('451, Col. 6, lines 59-63)

With respect to **claim 3:** The content of the antibacterial metal incorporated in antibacterial agent is 0.1-15 parts by weight with respect to 100 parts by weight of the agent, which is equivalent to the porous material (taught by Quincy) since the porous material is the only other component of the agent of the combined teaching of Hosokawa and Quincy. ('451, Col. 5, lines 11-13) The motivation to combine the teachings of Hosokawa and Quincy is stated *supra* with respect to claim 1.

With respect to **claim 4:** The content of the metal chelating agent is 0.01-10 parts by weight with respect to 100 parts by weight of the water-absorbing resin. ('451, Col. 9, lines 18-21)

With respect to **claim 5:** The metal chelating agent is an aminocarboxylic acid metal chelating agent. ('451, Col. 7, lines 11-18)

With respect to **claim 6:** The aminocarboxylic acid metal chelating agent is ethylenediaminetetraacetic acid (EDTA). ('451, Col. 7, line 19)

With respect to **claim 7:** Hosokawa teaches an absorbing material that comprises a water-absorbing resin compound according to the claimed invention, and a hydrophilic fiber in the form of cellulosic fluff pulp. (‘451, Col. 10, lines 45-48)

With respect to **claim 8:** Hosokawa teaches an absorbing product, which comprises a liquid-permeable sheet; a liquid-non-permeable sheet; and an absorbing material comprising a water-absorbing resin compound according to the claimed invention and a hydrophilic fiber, wherein the absorbing material lies between the liquid-permeable sheet and the liquid-non-permeable sheet. (‘451, Col. 10, lines 41-48)

With respect to **claim 9:** With regard to the limitation "wherein the antibacterial agent is an eluting-type agent”, the antibacterial agent of the combined teaching of Hosokawa and Quincy renders the limitations of claim 9 as to an antibacterial agent having a porous material incorporating an antibacterial metal and a metal chelating agent. Applicant discloses in Page 3, line 24 – Page 4, line 4 of the specification that these elements are what separate an agent comprising an antimicrobial metal that is put into a compound that is able to subsequently release those metals over a sustained period of time from those agents having the same antimicrobial metals placed in similar compounds that do not or cannot elute. Therefore, the limitation "wherein the antibacterial agent is an eluting-type agent” is also rendered obvious by the combined teaching of Hosokawa and Quincy.

Conclusion

5. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to MELANIE J. HAND whose telephone number is (571)272-6464. The examiner can normally be reached on Mon-Thurs 8:00-5:30, alternate Fridays 8:00-4:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Tatyana Zalukaeva can be reached on 571-272-1115. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Melanie J Hand/
Examiner, Art Unit 3761

/Kevin C. Sirmons/
Supervisory Patent Examiner, Art Unit 3767